

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Applicant** 

Volloch et al.

Serial No.

9/936,879

Examiner

Bradrick, Thomas D.

Filed

October 1, 2003

Group Art Unit:

1651

For

SCREENING METHODS FOR COMPOUNDS USEFUL IN THE

REGULATION OF CELL PROLIFERATION

## INFORMATION DISCLOSURE STATEMENT

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Sir:

Pursuant to 37 C.F.R. §§1.97 and 1.98, applicants respectfully request that the documents listed below and on the accompanying PTO 1449 be considered by the Examiner and made of record in the above-referenced application. Copies of the documents listed are enclosed.

- 1. U.S. Patent 6,096,711 Aug. 1, 2000 Sherman et al. entitled Hsp72 induction and applications
- 2. Edwards MJ, Nazmi N, Mower C, Daniels A. Hsp72 antigen expression in the proliferative compartment of involved psoriatic epidermis. J Cutan Pathol. 1999

  Nov;26(10):483-9.
- 3. Kudo M, Naito Z, Yokoyama M, Asano G. Effects of quercetin and sunphenon on responses of cancer cells to heat shock damage. Exp Mol Pathol. 1999 Apr;66(1):66-75.
- 4. Meriin et al. Protein-damaging stresses activate c-Jun N-terminal kinase via inhibition of its dephosphorylation: a novel pathway controlled by HSP72. (1999, Mol. Cel. Biol.)
- 5. Athanassiadou P, Petrakakou E, Sakelariou V, Zerva C, Liossi A, Michalas S, Athanassiades P. Expression of p53, bcl-2 and heat shock protein (hsp72) in malignant and benign ovarian tumours. Eur J Cancer Prev. 1998 Jun;7(3):225-31.
- 6. Buzzard, K. A., et al., Heat shock protein 72 modulates pathways of stress-induced apoptosis. 1998, J. Biol. Chem. 273:17147-17 Role of the human heat shock protein hsp70 in protection against stress-induced apoptosis. 153
- 7. Choukroun, G. et al., Role of the stress-activated protein kinases in endothelin-induced cardiomyocyte hypertrophy. 1998, J. Clin. Invest. 102:1311-1320)
- 8. Ganiatsas, S. et al., SEK1 deficiency reveals mitogen-activated protein kinase cascade crossregulation and leads to abnormal hepatogenesis. 1998, Proc. Natl. Acad. Sci USA 95:6881-6886

- 9. Guo, Y.L. Correlation between sustained c-Jun N-terminal protein kinase activation and apoptosis induced by tumor necrosis factor-alpha in rat mesangial cells. 1998, J. Biol. Chem. 273:4027-4034
- 10. Janicke et al., Caspase-3 is required for DNA fragmentation and morphological changes associated with apoptosis. 1998, J. Biol. Chem. 273:9357-9360
- 11. Kebers et al., Induction of endothelial cell apoptosis by solid tumor cells. 1998, Experimental Cell Research 240:197-205
- 12. Massie, B. et al., Inducible overexpression of a toxic protein by an adenovirus vector with a tetracycline-regulatable expression cassette. 1998, J. Virology 72(3): 2289-2296
- 13. Meriin, A. et al., Proteasome inhibitors activate stress kinases and induce Hsp72. Diverse effects on apoptosis. 1998, J. Biol. Chem. 273:6373-6379
- 14. Volloch, V., et al., Reduced thermotolerance in aged cells results from a loss of an hsp72-mediated control of JNK signaling pathway. 1998, Cell Stress 7 Chaperones 3:265-271
- 15. Wuerzberger et al., Induction of apoptosis in MCF-7:WS8 breast cancer cells by beta-lapachone. 1998, Cancer Research 58:1876-1885
- 16. Finch, a. et al., Selective activation of JNK/SAPK by interleukin-1 in rabbit liver is mediated by MKK7. 1997, Febs. Lett 418:144-14
- Jani et al., 1997, Generation, validation, and large scale production of adenoviral recombinants with large size inserts such as a 6.3 kb human dystrophin cDNA. J. Virol. Methods 64:111-124
- 18. Mosser et al., Role of the human heat shock protein hsp70 in protection against stress-induced apoptosis. 1997a, Mol. Cell Biol 17:5317-5327

- 19. Mosser, D. D., et al., Use of a dicistronic expression cassette encoding the green fluorescent protein for the screening and selection of cells expressing inducible gene products.

  1997, Biotechniques 22(1):150-160
- Bursch et al., Active cell death induced by the anti-estrogens tamoxifen and ICI 164 384 in human mammary carcinoma cells (MCF-7) in culture: the role of autophagy. 1996, Carcinogenesis 17:1595-1607
- 21. Chen, Y.R. et al., The role of c-Jun N-terminal kinase (JNK) in apoptosis induced by ultraviolet C and gamma radiation. Duration of JNK activation may determine cell death and proliferation. 1996, J. Biol. Chem. 271(50):31929-31936
- 22. Rattan, S. Synthesis, modifications, and turnover of proteins during aging. 1996, Exp. Gerontol 31:33-47
- 23. Seo et al., T cell lymphoma in transgenic mice expressing the human Hsp70 gene. 1996, Biochem. Biophys. Res. Commun. 218:582-587
- 24. Sherwood et al., Cell cycle analysis of apoptosis using flow cytometry. 1995. Methods in Cell Biology 46:77-97
- 25. Tavaria, M. et al., A hitchhiker's guide to the human Hsp70 family. 1996, Cell Stress & Chaperones 1:23-28
- 26. van Engeland et al., A novel assay to measure loss of plasma membrane asymmetry during apoptosis of adherent cells in culture. 1996, Cytometry 24:131-139
- 27. Verheij, M. et al., Requirement for ceramide-initiated SAPK/JNK signalling in stress-induced apoptosis. 1996 Nature 380(6569):75-79

- Zanke, B.W., et al. The stress-activated protein kinase pathway mediates cell death following injury induced by cis-platinum, UV irradiation or heat. 1996, Current Biology 6(5):606-613
- 29. Jaattela, M. Over-expression of hsp70 confers tumorigenicity to mouse fibrosarcoma cells. 1995, Int. J. Cancer 60:689-693
- 30. Li et al., Heat shock proteins, thermotolerance, and their relevance to clinical hyperthermia. 1995, Int. J. Hyperthermia 11:459-488
- 31. Erb et al., Recursive deconvolution of combinatorial chemical libraries. 1994, Proc. Natl. Acad. Sci. USA 91:11422-11426
- 32. Gallop et al., Applications of combinatorial technologies to drug discovery. 1994, J. Medicinal Chemistry 37(9):1233-1251
- 33. Heydari et al., Hsp70 and aging. 1994, Experintia 50:1092-1098
- Huang Q, Alvares K, Chu R, Bradfield CA, Reddy JK. "Association of
   peroxisome proliferator-activated receptor and Hsp72" J Biol Chem. 1994 Mar 18;269(11):8493 7.
- Jayawickreme et al., Creation and functional screening of a multi-use peptide library. 1994, Proc. Natl. Acad. Sci USA 91:1614-1618
- 36. Medynski, Synthetic peptide combinatorial libraries. 1994, Bio/Technology 12:709-710
- 37. Ostresh et al., "Libraries from libraries": chemical transformation of combinatorial libraries to extend the range and repertoire of chemical diversity. 1994, Proc. Natl. Acad Sci. USA 91:11138-11142

- 38. Rebar and Pabo, Zinc finger phage: affinity selection of fingers with new DNA-binding specificities. 1994, Science 263:671-673
- 39. Sanchez, I. Hughes et al. Role of SAPK/ERK kinase-1 in the stress-activated pathway regulating transcription factor c-Jun. 1994, Nature 372(6508):794-798.
- 40. Wei, Y., Induction of apoptosis by quercetin: involvement of heat shock protein. 1994, Cancer Res. 54:4952-4957
- 41. WO 94/18318 dated Aug. 18, 1994 entitled TOTALLY SYNTHETIC AFFINITY REAGENTS
- 42. Yu et al., Structural basis for the binding of proline-rich peptides to SH3 domains. 1994, Cell 76:933-945
- 43. Ciocca et al., Heat shock protein hsp70 in patients with axillary lymph nodenegative breast cancer: prognostic implications. 1993, Natl. Cancer Inst. 85:570-574
- 44. U.S. Patent 5,223,409 June 29, 1993 Ladner et al. entitled Directed evolution of novel binding proteins
- 45. U.S. Patent 5,198,346 Mar 30, 1993 Ladner et al. entitled Generation and selection of novel DNA-binding proteins and polypeptides
- 46. Ohlmeyer et al., Complex synthetic chemical libraries indexed with molecular tags. 1993, Proc. Natl.Acad. Sci. USA 90:10922-10926
- Salmon et al., Discovery of biologically active peptides in random libraries: solution-phase testing after staged orthogonal release from resin beads. 1993, Proc. Natl. Acad. Sci USA 90:11708-11712
- 48. WO 93/20242 dated Oct. 14, 1993 entitled ENCODED COMBINATORIAL CHEMICAL LIBRARIES

- 49. Bock et al., Selection of single-stranded DNA molecules that bind and inhibit human thrombin. 1992, Nature 355:564-566
- 50. Brenner and Lerner, Encoded combinatorial chemistry. 1992, Proc. Natl. Acad Sci. USA 89:5381-5383
- 51. Christian, R.B., et al., Simplified methods for construction, assessment and rapid screening of peptide libraries in bacteriophage. 1992, J. Mol. Biol. 227:711-718
- 52. Ellington et al., Selection in vitro of single-stranded DNA molecules that fold into specific ligand-binding structures. 1992, Nature 355:850-852
- 53. Fowlkes et al., Multipurpose vectors for peptide expression on the M13 viral surface. 1992; BioTechniques 13:422-427
- Houghten et al. The use of synthetic peptide combinatorial libraries for the identification of bioactive peptides. 1992, Biotechniques 13:412
- Jaattela, M., Major heat shock protein hsp70 protects tumor cells from tumor necrosis factor cytotoxicity. 1992, EMBO J. 11:3507-3512
- 56. U.S. Patent 5,096,815 Mar 17, 1992 Ladner et al. entitled Generation and selection of novel DNA-binding proteins and polypeptides
- 57. Lenstra, Isolation of sequences from a random-sequence expression library that mimic viral epitopes. 1992, J. Immunol. Meth. 152:149-157
- 58. Li et al., Heat shock protein hsp70 protects cells from thermal stress even after deletion of its ATP-binding domain. 1992, Proc. Natl. Acad Sci. USA 89:2036-2040
- 59. Oldenburg et al., Peptide ligands for a sugar-binding protein isolated from a random peptide library. 1992, Proc. Natl. Acad Sci. USA 89:5393-5397

- 60. Simon et al. Peptoids: a modular approach to drug discovery. 1992, Proc. Natl. Acad. Sci. USA 89:9367-9371
- Tuerk et al., RNA pseudoknots that inhibit human immunodeficiency virus type 1 reverse transcriptase. 1992, Proc. Natl. Acad. Sci USA 89:6988-6992
- 62. Chien et al., The two-hybrid system: a method to identify and clone genes for proteins that interact with a protein of interest. 1991, Proc. Natl. Acad. Sci. USA 88:9578-9582
- 63. Fodor et al., Light-directed, spatially addressable parallel chemical synthesis.
  1991, Science 251:767-773
- 64. Houghten et al., Generation and use of synthetic peptide combinatorial libraries for basic research and drug discovery. 1991, Nature 354:84-86
- 65. Lam et al., A new type of synthetic peptide library for identifying ligand-binding activity. 1991, Nature 354:82-84
- 66. Devlin et al., Random peptide libraries: a source of specific protein binding molecules. 1990, Science, 249:404-406
- 67. Langer, New methods of drug delivery. Science 249:1527-1533 (1990)
- 68. Leonetti et al., Antibody-targeted liposomes containing oligodeoxyribonucleotides complementary to viral RNA selectively inhibit viral replication. 1990, Proc. Natl. Acad. Sci. USA 87:2448-2451
- Renneisen et al., Inhibition of expression of human immunodeficiency virus-1 in vitro by antibody-targeted liposomes containing antisense RNA to the env region. 1990, J. Biol. Chem. 265:16337-16342
- 70. Sarver et al. Ribozymes as potential anti-HIV-1 therapeutic agents. 1990, Science 247:1222-1225

- 71. Scott and Smith, Searching for peptide ligands with an epitope library. 1990, Science 249:386-390
- 72. WO 90/11364 dated Oct. 4, 1990 entitled RNA RIBOZYME RESTRICTION ENDORIBONUCLEASES AND METHODS
- 73. During et al., Controlled release of dopamine from a polymeric brain implant: in vivo characterization. Ann. Neurol 25:351 (1989)
- 74. Fields and Song, A novel genetic system to detect protein-protein interactions. 1989, Nature 340:245-246
- 75. Howard et al., Intracerebral drug delivery in rats with lesion-induced memory deficits. J Neurosurg. 71:105 (1989)
- 76. Huse et al., Generation of a large combinatorial library of the immunoglobulin repertoire in phage lambda. 1989 Science 246:1275-1281
- 77. Letsinger et al., Cholesteryl-conjugated oligonucleotides: synthesis, properties, and activity as inhibitors of replication of human immunodeficiency virus in cell culture. 1989, Proc. Natl. Acad. Sci. USA 86:6553-6556
- 78. Lopez-Berestein, Treatment of Systematic Fungal Infections with Liposomal Amphotericin B. Liposomes in the Therapy of Infectious Disease and Cancer, 1989, pp. 317-327
- 79. Parmley and Smith, Filamentous fusion phage cloning vectors for the study of epitopes and design of vaccines. 1989, Adv. Exp. Med. Biol 251:215-218
- 80. Saudek et al., A preliminary trial of the programmable implantable medication system for insulin delivery. N. Engl. J. Med. 321:574 (1989)

- 81. Treat et al., Liposome Encapsulated Doxorubicin Preliminary Results of Phase I and Phase II Trials in Liposomes in the Therapy of Infectious Disease and Cancer, Lopez-Berestein and Fidler (eds.), Liss, New York, pp. 353-365 (1989)
- 82. Ehrhart JC, Duthu A, Ullrich S, Appella E, May P. "Specific interaction between a subset of the p53 protein family and heat shock proteins hsp72/hsc73 in a human osteosarcoma cell line," Oncogene. 1988 Nov;3(5):595-603.
- 83. Krol et al. Modulation of eukaryotic gene expression by complementary RNA or DNA sequences. 1988; Bio Techniques 6:958-976
- 84. Sarin et al., Inhibition of acquired immunodeficiency syndrome virus by oligodeoxynucleoside methylphosphonates. 1988, Proc. Natl. Acad. Sci. USA 85:7448-7451
- 85. Staudt et al., Cloning of a lymphoid-specific cDNA encoding a protein binding the regulatory octamer DNA motif. 1988, Science 241:577-580
- 86. Stein et al. Physicochemical properties of phosphorothioate oligodeoxynucleotides. 1988, Nucl. Acids Res. 16:3209
- 87. Sturzbecher HW, Addison C, Jenkins JR, "Characterization of mutant p53-hsp72/73 protein-protein complexes by transient expression in monkey COS cells," Mol Cell Biol. 1988 Sep;8(9):3740-7.
- 88. Zon, Oligonucleotide analogues as potential chemotherapeutic agents. 1988, Pharm. Res. 5:539-549
- 89. WO 88/09810 dated Dec. 15, 1988 entitled NOVEL AMPHIPHILIC NUCLEIC ACID CONJUGATES

- 90. Gautier et al., Alpha-DNA. IV: Alpha-anomeric and beta-anomeric tetrathymidylates covalently linked to intercalating oxazolopyridocarbazole. 1987, Nucl. Acids Res. 15:6625-6641
- 91. Inoue et al., Sequence-dependent hydrolysis of RNA using modified oligonucleotide splints and RNase H. 1987, FEBS Lett. 215:327-330
- 92. Inoue et al., Synthesis and hybridization studies on two complementary nona(2'-O-methyl)ribonucleotides. 1987, Nucl. Acids Res. 15:6131-6148
- 93. Lemaitre et al., Specific antiviral activity of a poly(L-lysine)-conjugated oligodeoxyribonucleotide sequence complementary to vesicular stomatitis virus N protein mRNA initiation site. 1987, Proc. Natl. Acad. Sci. 84:648-652
- 94. Sefton, Implantable pumps. CRC Crit. Ref. Biomed. Eng. 14:201 (1987)
- 95. Wu and Wu, Receptor-mediated in vitro gene transformation by a soluble DNA carrier system. 1987, J. Biol. Chem. 262:4429-4432
- 96. Cole et al., 1985 The EBV-Hybridoma Technique and its Application to Human Lung Cancer in Monoclonal Antibodies and Cancer Therapy, Alan R. Liss, Inc., pp 77-96
- 97. Levy et al., Inhibition of calcification of bioprosthetic heart valves by local controlled-release diphosphonate. Science 228:190 (1985)
- 98. Goodson, in Medical Applications of Controlled Release, supra, Vol. 2, pp. 115-138 (1984)
- 99. Kozbor et al., The production of monoclonal antibodies from human lymphocytes. 1983, Immunology Today 4:3:72-79

## A32367-PCT-USA\_A (066290.0105)

- Langer and Peppas, Chemical and Physical Structure of Polymers as Carriers for Controlled Release of Bioactive Agents: A Review. J. Macromol. Sci Rev. Macromol. Chem 23:61 (1983)
- 101. Brinster et al., Regulation of metallothionein--thymidine kinase fusion plasmids injected into mouse eggs. 1982, Nature 296:39-42
- 102. Benoist and Chambon, In vivo sequence requirements of the SV40 early promotor region. 1981, Nature 290:304-310
- 103. Wagner et al., Nucleotide sequence of the thymidine kinase gene of herpes simplex virus type 1. 1981, Proc. Natl. Acad. Sci. USA 78:1441-1445
- Buchwald et al., Long-term, continuous intravenous heparin administration by an implantable infusion pump in ambulatory patients with recurrent venous thrombosis. Surgery 88:507 (1980)
- 105. Yamamoto et al., Identification of a functional promoter in the long terminal repeat of Rous sarcoma virus. 1980, Cell 22:787-797
- 106. Robbins and Angell, 1976, Basic Pathology, 2d Ed., W.B. Saunders Co., Philadelphia, pp. 68-79
- 107. Kohler and Milstein, Continuous cultures of fused cells secreting antibody of predefined specificity. 1975, Nature 256:495-497

Identification of the listed documents is not to be construed as an admission of the applicants or attorneys for applicants that such citations are available as "prior art" against the subject application. If the Examiner applies the documents as prior art against any claim in the application and applicants determine that the cited documents do not constitute "prior art" under United States law, applicants reserve the right to present to the Office the relevant facts and law regarding the appropriate status of the documents.

Applicants further reserve the right to take appropriate action to establish the patentability of the disclosed invention over the listed documents, should the documents be applied against the claims of the present application.

If any additional fee is required, or if any overpayment has been made, the Commissioner is hereby authorized to charge any fees, or credit or any overpayments made, to Deposit Account 02-4377.

Respectfully submitted, BAKER BOTTS L.L.P.

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Form PTO-1449 U.S. Department of Commerce (REV. 2-82) Patent and Trademark Office	Atty. Docket No. A32367-PCT-USA-A	Serial No. 9/936,879
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Applicant Volloch et al.	
QUSE several sheets if necessary)	Filing Date October 1, 2003	Group 1651
JAN 1 9 2006 B	Examiner Bradrick, Thomas Dale	
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44	5,223,409	Aug. 1, 2000 June 29, 1993	Sherman et al.  Ladner et al.		Appro.
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15					
45	5,198,346	Mar 30, 1993	Ladner et al.		
56	5,096,815	Mar 17, 1992	Ladner et al.		

	FORE	CIGN PATENT DOC	UMENTS			
No.	Document No.	Date	Country	Class	Subclass	Translation Yes No
41	WO 94/18318	Aug. 18, 1994	World			
48	WO 93/20242	Oct. 14, 1993	World			
72	WO 90/11364	Oct. 4, 1990	World			
89	WO 88/09810	Dec. 15, 1988	World			

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1.	
2.	Edwards MJ, Nazmi N, Mower C, Daniels A. Hsp72 antigen expression in the proliferative compartment of involved psoriatic epidermis. <i>J Cutan Pathol.</i> 1999 Nov;26(10):483-9.
3.	Kudo M, Naito Z, Yokoyama M, Asano G. Effects of quercetin and sunphenon on responses of cancer cells to heat shock damage. <i>Exp Mol Pathol</i> . 1999 Apr;66(1):66-75.
4.	Meriin <i>et al.</i> Protein-damaging stresses activate c-Jun N-terminal kinase via inhibition of its dephosphorylation: a novel pathway controlled by HSP72. (1999, <i>Mol. Cel. Biol.</i> )
5.	Athanassiadou P, Petrakakou E, Sakelariou V, Zerva C, Liossi A, Michalas S, Athanassiades P. Expression of p53, bcl-2 and heat shock protein (hsp72) in malignant and benign ovarian tumours. Eur J Cancer Prev. 1998 Jun;7(3):225-31.
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7.	Choukroun, G. et al., Role of the stress-activated protein kinases in endothelin-induced cardiomyocyte hypertrophy. 1998, J. Clin. Invest. 102:1311-1320)
8.	Ganiatsas, S. et al., SEK1 deficiency reveals mitogen-activated protein kinase cascade crossregulation and leads to abnormal hepatogenesis. 1998, Proc. Natl. Acad. Sci USA 95:6881-6886

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10.	Janicke et al., Caspase-3 is required for DNA fragmentation and morphological changes associated with apoptosis. 1998, J. Biol. Chem. 273:9357-9360
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12.	Massie, B. et al., Inducible overexpression of a toxic protein by an adenovirus vector with a tetracycline-regulatable expression cassette. 1998, J. Virology 72(3): 2289-2296
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15.	Wuerzberger <i>et al.</i> , Induction of apoptosis in MCF-7:WS8 breast cancer cells by beta-lapachone. 1998, <i>Cancer Research</i> <b>58</b> :1876-1885
16.	Finch, a. et al., Selective activation of JNK/SAPK by interleukin-1 in rabbit liver is mediated by MKK7. 1997, Febs. Lett 418:144-14
17.	Jani et al., 1997, Generation, validation, and large scale production of adenoviral recombinants with large size inserts such as a 6.3 kb human dystrophin cDNA. J. Virol. Methods 64:111-124
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20.	Bursch et al., Active cell death induced by the anti-estrogens tamoxifen and ICI 164 384 in human mammary carcinoma cells (MCF-7) in culture: the role of autophagy. 1996, Carcinogenesis 17:1595-1607
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22.	Rattan, S. Synthesis, modifications, and turnover of proteins during aging. 1996, Exp. Gerontol 31:33-47
23.	Seo et al., T cell lymphoma in transgenic mice expressing the human Hsp70 gene. 1996, Biochem. Biophys. Res. Commun. 218:582-587
24.	Sherwood et al., Cell cycle analysis of apoptosis using flow cytometry. 1995. Methods in Cell Biology 46:77-97
25.	Tavaria, M. et al., A hitchhiker's guide to the human Hsp70 family. 1996, Cell Stress & Chaperones 1:23-28
26.	van Engeland et al., A novel assay to measure loss of plasma membrane asymmetry during apoptosis of adherent cells in culture. 1996, Cytometry 24:131-139
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31.	Erb et al., Recursive deconvolution of combinatorial chemical libraries. 1994, Proc. Natl. Acad. Sci. USA 91:11422-11426
32.	Gallop et al., Applications of combinatorial technologies to drug discovery. 1994, J. Medicinal Chemistry 37(9):1233-1251
33.	Heydari et al., Hsp70 and aging. 1994, Experintia 50:1092-1098
34.	Huang Q, Alvares K, Chu R, Bradfield CA, Reddy JK. "Association of peroxisome proliferator-activated receptor and Hsp72" J Biol Chem. 1994 Mar 18;269(11):8493-7.
35.	Jayawickreme <i>et al.</i> , Creation and functional screening of a multi-use peptide library. 1994, <i>Proc. Natl. Acad. Sci USA</i> <b>91</b> :1614-1618
36.	Medynski, Synthetic peptide combinatorial libraries. 1994, Bio/Technology 12:709-710
37.	Ostresh et al., "Libraries from libraries": chemical transformation of combinatorial libraries to extend the range and repertoire of chemical diversity. 1994, Proc. Natl. Acad Sci. USA 91:11138-11142

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	Filing Date October 1, 2003	Group 1651
	Examiner Bradrick, Thomas Dale	,

No.	OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)
38.	Rebar and Pabo, Zinc finger phage: affinity selection of fingers with new DNA-binding specificities. 1994, <i>Science</i> <b>263</b> :671-673
39.	Sanchez, I. Hughes <i>et al.</i> Role of SAPK/ERK kinase-1 in the stress-activated pathway regulating transcription factor c-Jun. 1994, <i>Nature</i> <b>372</b> (6508):794-798.
40.	Wei, Y., Induction of apoptosis by quercetin: involvement of heat shock protein. 1994, Cancer Res. 54:4952-4957
41.	
42.	Yu et al., Structural basis for the binding of proline-rich peptides to SH3 domains. 1994, Cell 76:933-945
43.	Ciocca et al., Heat shock protein hsp70 in patients with axillary lymph node-negative breast cancer: prognostic implications. 1993, Natl. Cancer Inst. 85:570-574
44.	
45.	
46.	Ohlmeyer et al., Complex synthetic chemical libraries indexed with molecular tags. 1993, Proc. Natl. Acad. Sci. USA 90:10922-10926
47.	Salmon et al., Discovery of biologically active peptides in random libraries: solution-phase testing after staged orthogonal release from resin beads. 1993, Proc. Natl. Acad. Sci USA 90:11708-11712
48.	

Examiner	Date Considered

<sup>\*</sup> Examiner: Initial citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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	Examiner Bradrick, Thomas Dale	

No.	OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)
49.	Bock <i>et al.</i> , Selection of single-stranded DNA molecules that bind and inhibit human thrombin. 1992, <i>Nature</i> <b>355</b> :564-566
50.	Brenner and Lerner, Encoded combinatorial chemistry. 1992, <i>Proc. Natl. Acad Sci. USA</i> <b>89</b> :5381-5383
51.	Christian, R.B., et al., Simplified methods for construction, assessment and rapid screening of peptide libraries in bacteriophage. 1992, J. Mol. Biol. 227:711-718
52.	Ellington et al., Selection in vitro of single-stranded DNA molecules that fold into specific ligand-binding structures. 1992, Nature 355:850-852
53.	Fowlkes et al., Multipurpose vectors for peptide expression on the M13 viral surface. 1992; BioTechniques 13:422-427
54.	Houghten <i>et al.</i> The use of synthetic peptide combinatorial libraries for the identification of bioactive peptides. 1992, <i>Biotechniques</i> <b>13</b> :412
55.	Jaattela, M., Major heat shock protein hsp70 protects tumor cells from tumor necrosis factor cytotoxicity. 1992, <i>EMBO J.</i> <b>11</b> :3507-3512
56.	
57.	Lenstra, Isolation of sequences from a random-sequence expression library that mimic viral epitopes. 1992, <i>J. Immunol. Meth.</i> <b>152</b> :149-157
58.	Li et al., Heat shock protein hsp70 protects cells from thermal stress even after deletion of its ATP-binding domain. 1992, Proc. Natl. Acad Sci. USA 89:2036-2040

Examiner	Date Considered

<sup>\*</sup> Examiner: Initial citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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No.	OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)
59.	Oldenburg et al., Peptide ligands for a sugar-binding protein isolated from a random peptide library. 1992, Proc. Natl. Acad Sci. USA 89:5393-5397
60.	Simon et al. Peptoids: a modular approach to drug discovery. 1992, Proc. Natl. Acad. Sci. USA 89:9367-9371
61.	Tuerk et al., RNA pseudoknots that inhibit human immunodeficiency virus type 1 reverse transcriptase. 1992, Proc. Natl. Acad. Sci USA 89:6988-6992
62.	Chien et al., The two-hybrid system: a method to identify and clone genes for proteins that interact with a protein of interest. 1991, Proc. Natl. Acad. Sci. USA 88:9578-9582
63.	Fodor <i>et al.</i> , Light-directed, spatially addressable parallel chemical synthesis. 1991, <i>Science</i> <b>251</b> :767-773
64.	Houghten <i>et al.</i> , Generation and use of synthetic peptide combinatorial libraries for basic research and drug discovery. 1991, <i>Nature</i> <b>354</b> :84-86
65.	Lam et al., A new type of synthetic peptide library for identifying ligand-binding activity. 1991, Nature 354:82-84
66.	Devlin et al., Random peptide libraries: a source of specific protein binding molecules. 1990, Science, 249:404-406
67.	Langer, New methods of drug delivery. Science 249:1527-1533 (1990)
68.	Leonetti et al., Antibody-targeted liposomes containing oligodeoxyribonucleotides complementary to viral RNA selectively inhibit viral replication. 1990, Proc. Natl. Acad. Sci. USA 87:2448-2451

Examiner	Date Considered

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No.	OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)	
69.	Renneisen <i>et al.</i> , Inhibition of expression of human immunodeficiency virus-1 in vitro by antibody-targeted liposomes containing antisense RNA to the env region. 1990, <i>J. Biol. Chem.</i> <b>265</b> :16337-16342	
70.	Sarver et al. Ribozymes as potential anti-HIV-1 therapeutic agents. 1990, Science 247:1222-1225	
71.	Scott and Smith, Searching for peptide ligands with an epitope library. 1990, Science 249:386-390	
72.		
73.	During et al., Controlled release of dopamine from a polymeric brain implant: in vivo characterization. Ann. Neurol 25:351 (1989)	
74.	Fields and Song, A novel genetic system to detect protein-protein interactions. 1989, <i>Nature</i> 340:245-246	
75.	Howard et al., Intracerebral drug delivery in rats with lesion-induced memory deficits. J. Neurosurg. 71:105 (1989)	
76.	Huse <i>et al.</i> , Generation of a large combinatorial library of the immunoglobulin repertoire in phage lambda. 1989 <i>Science</i> <b>246</b> :1275-1281	
77.	Letsinger <i>et al.</i> , Cholesteryl-conjugated oligonucleotides: synthesis, properties, and activity as inhibitors of replication of human immunodeficiency virus in cell culture. 1989, <i>Proc. Natl. Acad. Sci. USA</i> 86:6553-6556	
78.	Lopez-Berestein, Treatment of Systematic Fungal Infections with Liposomal Amphotericin B. <u>Liposomes in the Therapy of Infectious Disease and Cancer</u> , 1989, pp. 317-327	

Examiner	Date Considered	

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	Examiner Bradrick, Thomas Dale	

No.	OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)
79.	Parmley and Smith, Filamentous fusion phage cloning vectors for the study of epitopes and design of vaccines. 1989, <i>Adv. Exp. Med. Biol</i> <b>251</b> :215-218
80.	Saudek et al., A preliminary trial of the programmable implantable medication system for insulin delivery. N. Engl. J. Med. 321:574 (1989)
81.	Treat et al., Liposome Encapsulated Doxorubicin Preliminary Results of Phase I and Phase II Trials in <u>Liposomes in the Therapy of Infectious Disease and Cancer</u> , Lopez-Berestein and Fidler (eds.), Liss, New York, pp. 353-365 (1989)
82.	Ehrhart JC, Duthu A, Ullrich S, Appella E, May P. "Specific interaction between a subset of the p53 protein family and heat shock proteins hsp72/hsc73 in a human osteosarcoma cell line," Oncogene. 1988 Nov;3(5):595-603.
83.	Krol et al. Modulation of eukaryotic gene expression by complementary RNA or DNA sequences. 1988; Bio Techniques 6:958-976
84.	Sarin et al., Inhibition of acquired immunodeficiency syndrome virus by oligodeoxynucleoside methylphosphonates. 1988, Proc. Natl. Acad. Sci. USA 85:7448-7451
85.	Staudt et al., Cloning of a lymphoid-specific cDNA encoding a protein binding the regulatory octamer DNA motif. 1988, Science 241:577-580
86.	Stein et al. Physicochemical properties of phosphorothioate oligodeoxynucleotides. 1988, Nucl. Acids Res. 16:3209
87.	Sturzbecher HW, Addison C, Jenkins JR, "Characterization of mutant p53-hsp72/73 protein-protein complexes by transient expression in monkey COS cells," Mol Cell Biol. 1988 Sep;8(9):3740-7.

Examiner	Date Considered

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	Examiner Bradrick, Thomas Dale	

No.	OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)
88.	Zon, Oligonucleotide analogues as potential chemotherapeutic agents. 1988, <i>Pharm. Res.</i> <b>5</b> :539-549
89.	
90.	Gautier <i>et al.</i> , Alpha-DNA. IV: Alpha-anomeric and beta-anomeric tetrathymidylates covalently linked to intercalating oxazolopyridocarbazole. 1987, <i>Nucl. Acids Res.</i> <b>15</b> :6625-6641
91.	Inoue <i>et al.</i> , Sequence-dependent hydrolysis of RNA using modified oligonucleotide splints and RNase H. 1987, <i>FEBS Lett.</i> <b>215</b> :327-330
92.	Inoue et al., Synthesis and hybridization studies on two complementary nona(2'-O-methyl)ribonucleotides. 1987, Nucl. Acids Res. 15:6131-6148
93.	Lemaitre <i>et al.</i> , Specific antiviral activity of a poly(L-lysine)-conjugated oligodeoxyribonucleotide sequence complementary to vesicular stomatitis virus N protein mRNA initiation site. 1987, <i>Proc. Natl. Acad. Sci.</i> <b>84</b> :648-652
94.	Sefton, Implantable pumps. CRC Crit. Ref. Biomed. Eng. 14:201 (1987)
95.	Wu and Wu, Receptor-mediated in vitro gene transformation by a soluble DNA carrier system. 1987, <i>J. Biol. Chem.</i> <b>262</b> :4429-4432
96.	Cole <i>et al.</i> , 1985 The EBV-Hybridoma Technique and its Application to Human Lung Cancer in Monoclonal Antibodies and Cancer Therapy, Alan R. Liss, Inc., pp 77-96
97.	Levy et al., Inhibition of calcification of bioprosthetic heart valves by local controlled-release diphosphonate. Science 228:190 (1985)
98.	Goodson, in Medical Applications of Controlled Release, supra, Vol. 2, pp. 115-138 (1984)

Examiner	Date Countilland
Examine	Date Considered

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No.	OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)
99.	Kozbor et al., The production of monoclonal antibodies from human lymphocytes. 1983, Immunology Today 4:3:72-79
100.	Langer and Peppas, Chemical and Physical Structure of Polymers as Carriers for Controlled Release of Bioactive Agents: A Review. J. Macromol. Sci Rev. Macromol. Chem 23:61 (1983)
101.	Brinster <i>et al.</i> , Regulation of metallothioneinthymidine kinase fusion plasmids injected into mouse eggs. 1982, <i>Nature</i> <b>296</b> :39-42
102.	Benoist and Chambon, In vivo sequence requirements of the SV40 early promotor region. 1981, <i>Nature</i> <b>290</b> :304-310
103.	Wagner <i>et al.</i> , Nucleotide sequence of the thymidine kinase gene of herpes simplex virus type 1. 1981, <i>Proc. Natl. Acad. Sci. USA</i> <b>78</b> :1441-1445
104.	Buchwald <i>et al.</i> , Long-term, continuous intravenous heparin administration by an implantable infusion pump in ambulatory patients with recurrent venous thrombosis. <i>Surgery</i> <b>88</b> :507 (1980)
105.	Yamamoto et al., Identification of a functional promoter in the long terminal repeat of Rous sarcoma virus. 1980, Cell 22:787-797
106.	Robbins and Angell, 1976, Basic Pathology, 2d Ed., W.B. Saunders Co., Philadelphia, pp. 68-79
107.	Kohler and Milstein, Continuous cultures of fused cells secreting antibody of predefined specificity. 1975, <i>Nature</i> <b>256</b> :495-497

Examiner	Date Considered

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